IN THE CLAIMS

1-4. (Canceled)

5. (Currently Amended) An OFDM (Orthogonal Frequency Division Multiplexing) receiver, comprising:

- means for receiving a ~~broadcast burst~~ preamble signal, and

- means for autocorrelating the received ~~broadcast burst~~ preamble signal in order to synchronize the OFDM receiver, wherein

- the preamble signal comprises at least one first part and at least one second part,

- said at least one first part is designed for a coarse frame detection and/or an AGC control,

- said at least one second part follows the at least one first part in the time domain and being designed for a timing and frequency synchronization,

- the at least one first part and the at least one second part contain Inverse Fast Fourier Transformed (IFFT) ~~(IFT)~~ frequency domain sequences of complex symbols,

[[-]] ~~the frequency domain sequence of the at least one first part is set depending on the frequency domain sequence of the at least one second part such that a second autocorrelation peak mainly generated by the at least one second part of the preamble is optimized~~, and

the time domain signal of the synchronization preamble signal is generated by mapping frequency domain sequences of 12 complex symbols to a 64 point IFFT ~~IFT~~,

wherein the last six complex symbols of the at least one first part and the at least one second part are (1-i), (-1-i), (1-i), (-1-i), (-1+i), (1+i),

the remaining inputs of the IFFT ~~IFT~~ being set to zero, and wherein the sequence at least of the second part is:

$S_{-26,+26} = N*\{0,0,S1,0,0,0,S2,0,0,0,S3,0,0,0,S4,0,0,0,S5,0,0,0,S6,$

$0,0,0,0,0,0,0,S7,0,0,0,S8,0,0,0,S9,0,0,0,S10,0,0,0,0,S11,0,0,0,S12,0,0\}$,

N being a power normalization factor and S1-S12 being complex symbols.

6-9. (Canceled).

10. (Currently Amended) A method for the synchronization of a receiver of a OFDM transmission, the method comprising the steps of

- receiving a ~~broadcast burst~~ preamble signal, and

- autocorrelating the received ~~broadcast burst~~ preamble signal, wherein

- the preamble signal comprises at least one first part and at least one second part,

- said at least one first part being designed for a coarse frame detection and/or an AGC control,

- said at least one second part following the at least one first part in the time domain and being designed for a timing and frequency synchronization,

- the at least one first part and the at least one second part containing Inverse Fast Fourier Transformed (IFFT) ~~(IFT)~~ frequency domain sequences of complex symbols,

[[-]] ~~the frequency domain sequence of the at least one first part is set depending on the frequency domain sequence of the at least one second part such that a second autocorrelation peak mainly generated by the at least one second part of the preamble is optimized~~

wherein the last six complex symbols of the at least one first part and the at least one second part are (1-i), (-1-i), (1-i), (-1-i), (-1+i), (1+i), and

the time domain signal of the synchronization preamble signal is generated by mapping frequency domain sequences of 12 complex symbols to a 64 point IFFT,

~~the~~ remaining inputs of the IFFT being set to zero, and wherein the sequence at least of the second part is:

$S_{-26,+26} = N^*\{0,0,S1,0,0,0,S2,0,0,0,S3,0,0,0,S4,0,0,0,S5,0,0,0,S6,$

$0,0,0,0,0,0,0,S7,0,0,0,S8,0,0,0,S9,0,0,0,S10,0,0,0,S11,0,0,0,S12,0,0\}$,

N being a power normalization factor and S1-S12 being complex symbols.

11. (Canceled)

12. (Currently Amended) An OFDM transmitter, comprising means for generating and means for transmitting a ~~broadcast burst~~ preamble signal, wherein

- the preamble signal comprises at least one first part and at least one second part,
- said at least one first part being designed for a coarse frame detection and/or an AGC control,
- said at least one second part following the at least one first part in the time domain and being designed for a timing and frequency synchronization,
- the at least one first part and the at least one second part containing Inverse Fast Fourier Transformed (IFFT) ~~(IFT)~~ frequency domain sequences of complex symbols,

[[-]] ~~the frequency domain sequence of the at least one first part is set depending on the frequency domain sequence of the at least one second part such that a second autocorrelation peak mainly generated by the at least one second part of the preamble is optimized~~

wherein the last six complex symbols of the at least one first part and the at least one second part are (1-i), (-1-i), (1-i), (-1-i), (-1+i), (1+i), and

the time domain signal of the synchronization preamble signal is generated by mapping frequency domain sequences of 12 complex symbols to a 64 point IFFT,

~~the~~ remaining inputs of the IFFT being set to zero, and wherein the sequence at least of the second part is:

$S_{-26,+26} = N^*\{0,0,S1,0,0,0,S2,0,0,0,S3,0,0,0,S4,0,0,0,S5,0,0,0,S6,$

$0,0,0,0,0,0,0,S7,0,0,0,S8,0,0,0,S9,0,0,0,S10,0,0,0,0,S11,0,0,0,S12,0,0\}$,

N being a power normalization factor and S1-S12 being complex symbols.

13. (Currently Amended) A method for generating and transmitting a ~~broadcast burst preamble, wherein~~ preamble signal comprising the step of transmitting a preamble signal generated by the following steps:

- the preamble signal is divided into at least one first part and at least one second part,
- said at least one first part is designed for a coarse frame detection and/or [[a]] an AGC control,
- said at least one second part following the at least one first part in the time domain and is designed for a timing and frequency synchronization,
- the at least one first part and the at least one second part contain Inverse Fast Fourier transformed (IFFT) ~~(IFT)~~ frequency domain sequences of complex symbols,

[[-]] ~~the frequency domain sequence of the at least one first part is set depending on the frequency domain sequence of the at least one second part such that a second autocorrelation peak mainly generated by the at least one second part of the preamble is optimized,~~

wherein the last six complex symbols of the at least one first part and the at least one second part are (1-i), (-1-i), (1-i), (-1-i), (-1+i), (1+i)

and

- the time domain signal of the synchronization preamble signal is generated by mapping frequency domain sequences of 12 complex symbols to a 64 point IFFT,

~~the~~ remaining inputs of the IFFT being set to zero, and wherein the sequence at least of the second part is:

$S_{-26,+26} = N^*\{0,0,S1,0,0,0,S2,0,0,0,S3,0,0,0,S4,0,0,0,S5,0,0,0,S6,$

$0,0,0,0,0,0,0,S7,0,0,0,S8,0,0,0,S9,0,0,0,S10,0,0,0,S11,0,0,0,S12,0,0\}$,

N being a power normalization factor and S1-S12 being complex symbols.

14. (New) A device for generating and transmitting a preamble signal, comprising means for transmitting a preamble signal generated by:

- means for dividing the preamble signal into at least one first part and at least one second part, wherein

- said at least one first part is designed for a coarse frame detection and/or an AGC control and said at least one second part following the at least one first part in the time domain and is designed for a timing and frequency synchronization,

- the at least one first part and the at least one second part contain Inverse Fast Fourier Transformed (IFFT) frequency domain sequences of complex symbols, and

- the time domain signal of the synchronization preamble signal is generated by mapping frequency domain sequences of 12 complex symbols to a 64 point IFFT,

remaining inputs of the IFFT being set to zero, and wherein the sequence at least of the second part is:

$S_{-26,+26} = N^*\{0,0,S1,0,0,0,S2,0,0,0,S3,0,0,0,S4,0,0,0,S5,0,0,0,S6,$

$0,0,0,0,0,0,0,S7,0,0,0,S8,0,0,0,S9,0,0,0,S10,0,0,0,S11,0,0,0,S12,0,0\}$,

N being a power normalization factor and S1-S12 being complex symbols.